



# MAGAZINE

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FRONT COVER: "The Fall" in Canada, near Parry Sound, Ontario. Photograph by Miss P. M. Culligan (Dyestuffs Division).

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The Good Companion Fibre

By James Thurlby

'Ardil,' that soft, wool-like fibre made from the protein residue of groundnuts, has been aptly called "the good mixer." Blended with other fibres—such as cotton and rayon—it lends (at a price much less than that of fine wool) a warmth and softness of handle that gives a real luxury feel. Herein lies its particular value.

Photographs by Walter Nurnberg

THE samples of cloth lay on the desk in Harrogate like bright squares snipped from fifty different pairs of pyjamas. I did not have to be a textile salesman nor an expert to know that there was something quite remarkable about their quality. They were smooth and soft and warm to the fingertips.

"Just arrived from France," I was told. I felt them again. The finish was subtly attractive to the touch. It had a quality of luxury about it, yet the cloths themselves were lightweight, shortly to be put on the French and German markets as shirtings, children's wear, pyjamas and women's dresswear.

"How did they manage it?" I asked. "By using 'Ardil'," came the prompt reply. "They're 30% 'Ardil' and 70% cotton—some of the first 'Ardil' blends to be produced in France." "But other people have used 'Ardil' and haven't obtained that kind of result."

There was only the slightest pause. "True," was the answer. "The fact is the French have been the first to realise fully the potentialities of 'Ardil.' In these cloths they have emphasised the natural attractive qualities of the fibre."

They have done it within the past eight months. The cloths which I saw at the Fibres Division headquarters at Harrogate were some of the first to come from the looms of French firms which by the end of this year are expected to have made 10,000,000 yards of cloth containing 'Ardil.'

Their arrival symbolised a significant advance in the development of this protein fibre which is manufactured at the Dumfries factory of I.C.I., for during

the last year many overseas textile firms, notably in Europe, have become interested in the properties of 'Ardil.'

In France, 'Ardil'-cotton clothes are now on the market at prices below the usual wool-cotton blends.



GROUNDNUT MEAL from Unilevers—from which the fats for margarine making have already been extracted, leaving a protein residue—is the foundation raw material for 'Ardil.' The meal is here being removed from storage hoppers on the first stage of its journey.

Ladies' summer dresses of 'Ardil' and viscose rayon will be on sale next spring. These will be similar to the fashionable wool faille—but twice as strong and one-third the price. The French group anticipates a big demand for both these 'Ardil' blends from Germany.

Similar fabrics are being developed in Egypt and Portugal. Interest is being shown in Holland, Yugoslavia and Hungary. In Belgium, 'Ardil' blends are already in the shops. 'Ardil'-cotton blends for lightweight suitings are being made in India, Portugal and Australia.

Within the last twelve months, in fact, 'Ardil' has firmly and positively registered itself at many different spots on the international map. This is encouraging, for—let us face it—'Ardil,' like nearly all new fibres, has had to contend and is contending with initial difficulties.

It is essentially a blending fibre and its acceptance by the textile trade has, to a large extent, had to depend upon the craftsmanship of the cloth designer. Changes in textile traditions come about slowly. Yet there are many signs today that British manufacturers are taking





EXTRACTING PROTEIN from the groundnut meal. In these huge vessels groundnut meal is treated with chemicals and a pure protein solution obtained. This is later dried to a creamy powder called *Ardein*, starting point for the actual preparation of the fibre.

up the challenge to their ingenuity offered by the possibility of new associations in fibre types and by foreign competition.

'Ardil,' with its easy dyeing characteristics and its ability to confer luxury handle on cloths which would not normally possess this distinction, is one of the new fibres which is encouraging manufacturers in

this country to think along new lines and to plan the production of cloths with more subtle attractions in response to the growing quality consciousness of the public.

The French have always been adventurous with textiles and, in this instance, they are apparently one move ahead of Britain, for their new cloths have



BIRTH OF THE FIBRE. The protein solution is forced through the holes of the spinneret and coagulates in an acid bath into a soft rope of fibres. The fibre is here emerging from the acid bath and is spun on to drums.

shown to what remarkable advantage 'Ardil' can be blended, bringing exciting new properties to the fabrics in which it appears.

However, there is every reason to suppose that 'Ardil' blends as elegant and attractive as the French cloths will be produced here before long. Some Lancashire cotton firms have already discovered and

exploited the desirable qualities of 'Ardil' in a wide variety of fabrics. From Lancashire's technical skill and inventiveness today may well come a new type of quality product which will set fresh patterns of development within the cotton industry. For, by the blending of cotton with such new fibres as 'Ardil,' a new market can be created in which high-quality





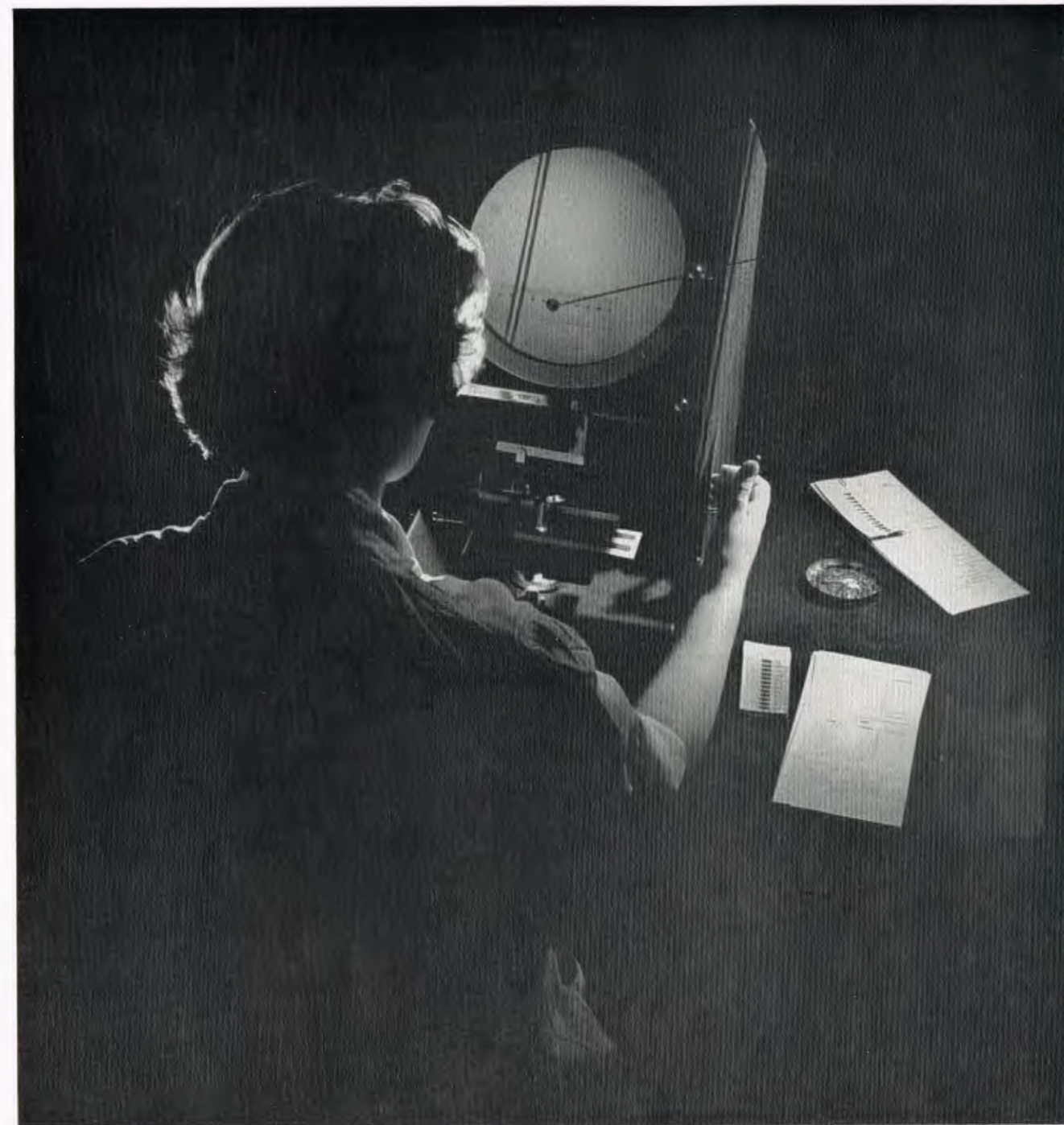
*DRIED FIBRE, now for the first time looking like wool, is here being baled for despatch*

cloths can be made available to the consumer of ordinary means at reasonable prices.

Behind the record of the most recent 'Ardil' developments there is an adventurous story of chemical research to meet a challenge offered by nature itself. The job of the scientists has been to produce from groundnut protein a fibre similar to that on a sheep's

back, thus bypassing the sheep and effecting a substantial economy in the process.

Nature, which is under no obligation to function as an efficient and modern chemical manufacturing unit, can afford to be prodigal in these matters. For instance, a sheep needs to consume 4000 lb. of vegetable food in order to produce 28 lb. of wool. If casein, the



*TESTING THE FIBRE. A thicker fibre naturally takes a greater load to break it than a fine fibre. Hence, in comparing the strengths of fibres it is necessary to know accurately the size of a fibre before breaking it. Here the operator is measuring with a ruled scale the 500-times magnified image of the fibre cast on a ground glass screen.*

protein derived from milk, is taken as the starting point for a fibre—and the Italians do this—then one would need to keep ten cows for one year to make a ton of fibre. Bring the analogy into relation to the capacity of the 'Ardil' plant at Dumfries—22,000,000 lb. a year—and it can be calculated that I.C.I. would need

a herd of 100,000 cows to maintain full production.

One of the principal aims of the scientist, however, is efficient and economic production; and while he has discovered a relatively economic route to this goal, he is still greatly baffled by the superior technical skill of certain of nature's smaller manufacturers. Both

*(Continued on page 299)*



# Plant Protection Man

"COMPETITION is tough up here," said the Plant Protection man. "You see, Lincolnshire farming is very intensive. Look at this field of onions. It is probably the largest single plot of onions you will see in the country. Forty acres of them. And they will probably lift 15 tons to the acre at £20 a ton. £300 to the acre gross—that's big business. And plenty of people are after the chemical end of it."

The field looked superb to me. Row upon row of neat onions in a dead flat field of the Lincolnshire fens, broken only by the high banks and deep ditches of the dykes. And to the casual eye not a weed to be seen.

Mine was the casual eye. But the eye of Keith Abbs, the Plant Protection Representative, was a lot sharper.

"You are wrong," he said. "Look at this—the first small leaves of the annual nettle. In a few weeks, if not hoed out, they will be up and smothering the onions."

"What about weedkiller?" I asked.

"There is no satisfactory weedkiller for this particular job," said Keith. "But that is not to say there is no satisfactory weedkiller at all to protect onions. The whole of this field was sprayed with a 12½% solution of sulphuric acid just after germination. That is why they have got to their present stage without competition from weeds. And why they will need only one hoeing between now and lifting."

It was a similar story with practically every crop we discussed—chemicals to kill weeds, saving endless drudgery and expense. I was shown a field of tulips ready for lifting in a fortnight's time. Right from the moment of their planting they had never been weeded.

"How do you manage that?" I asked.

"This is what we do. The tulips are planted in October. The first green shoots will probably appear above the ground about the first week of February. Just before this, say the last week of January, the field is sprayed with Plant Protection's 'Hawmac' (sodium arsenite) at the rate of 1 gallon in 50 gallons of water to the acre. This will not only kill all existing weeds but will also inhibit the germination of spring weed seeds. The tulip is a bulb which doesn't like being disturbed, so by means of this weedkiller it can be left to grow without interference, I won't say there won't be some weeds. But the tulip will be on top of them."

The land we were on was part of a 1200-acre farm of the best Lincolnshire land, worth between £200 and £250 an acre. It was carrying heavy crops of potatoes, sugar beet, wheat, barley and bulbs. The barley was fed to pigs to provide bacon for the housewife and manure for the land. Wheat, sugar beet and potatoes were sold off the land as cash crops; and the bulbs—tulips and daffodils—were channelled to the glasshouses for forcing.

"Come and see the tomatoes," said Keith. "They are really only a catch crop following the forced flowers, but they are nothing to be ashamed of. Thanks to the work of Fernhurst, Plant Protection's Research Station, I have been able to help them bring up their yields quite a bit."

"In fact," said Keith, "the Company has quite a name for tomato growing around here. The secret lies in the correct application of our concentrated fertilizer 'Solufeed,' which is applied dissolved in water at the rate of 7 lb. to 500 gallons."

I looked closer at the tomato house. Row upon row of tomatoes reared their green luxuriant foliage to the roof. At the bottom of the stout stems were the closely set trusses of fruit, some of them already picked. But what interested me most was that each plant grew from a fibre pot about 12 in. across. And each pot was seated in a surround of gravel.

"The advantages are obvious," said Keith. "No soil sterilisation, merely fresh specially prepared soil for each pot. Then just watering at pretty regular intervals with water impregnated with soluble liquid manure—watering and manuring being done at one and the same time."

I asked Keith how he spent his time when not advising farmers.

"Oh, there is no end to it. I have got some fifteen trial field-experiment plots going in order to test out new weedkillers that may one day be winners. In fact, there may be big news for farmers round the corner—a weedkiller that will kill weeds in kale without damaging the kale. Sometimes I take parties of leading growers down to Fernhurst Research Station, and then there are a number of routine and administrative duties with our agents and with Area Office at Leicester, and a watchful eye has always to be kept on our competitors."

R.M.K.

Keith Abbs





# Information Notes

## COOLING TOWERS: THE REASON WHY

By J. Jackson (Head Office)

*Cooling towers, with their peculiar conical shape, are very much a twentieth-century feature. What is the purpose of this shape? Is it accident or design? Why are cooling towers necessary anyway? These and other questions are here answered.*

COOLING towers—those enormous cotton-reel-shaped structures of reinforced concrete—have been called by someone the cathedrals of the twentieth century. Whatever we may think of this, many of us must have wondered just what goes on inside those vast constructions and why they are this peculiar shape.

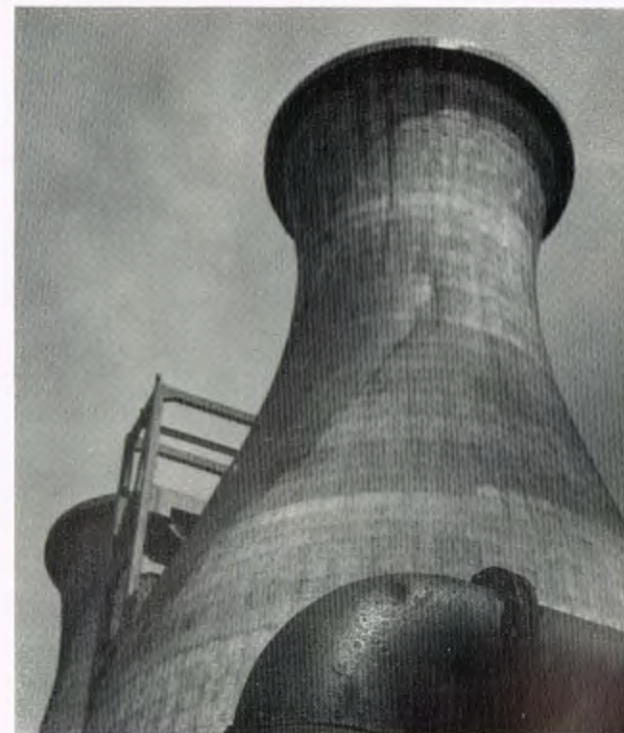
Anyone looking inside a large concrete cooling tower for the first time would probably be amazed to find that by far the greater part of the inside is in fact empty. The truth is that this type of tower is nothing more than an overgrown chimney, and the great height is needed to get a good draught up it. In the lower part of the tower one would see a large number of pipes running from side to side spraying water out over rows of wooden laths or bars. This water falls like rain down the tower into a collecting tank at the bottom.

What is the object of this peculiar arrangement? The cooling tower, as its name implies, is used for cooling water which has become heated in some way or other. In a chemical plant, for example, the water may have been used to cool hot process liquors, while on an electric power station it will have been used for condensing steam. The water is cooled by letting the cold air going up the chimney pass through it, much as you cool a cup of hot tea by blowing on it.

This is all right for the cup of tea, but it would not do at all for the enormous quantities of water handled by a cooling tower. It would be a most inefficient arrangement merely to run the hot water into a tank and blow air over it, since only the surface of the water would be cooled by so doing. In fact, the whole idea of the water sprays and the wooden bars is to break the water up into innumerable small droplets and see that these get as thoroughly mixed up with the air as possible.

This brings me to the question embodied in the title of this article. Why should anyone want to cool water? Surely there is enough water available, especially in this country, to make it possible to throw the hot water away and make a fresh start with a new lot of cold water without going to the trouble and expense of putting up these enormous concrete structures.

The surprising fact is, on the contrary, that because chemical and other plants and power stations need such



*A typical cooling tower*

large quantities of water there may actually be an acute shortage of water for cooling in industrial districts. Also, if many plants take cold water from a river, for example, and return hot water to it, they may actually succeed in making the river water so warm that it is no longer much use for cooling purposes. This, of course, is where the cooling tower comes in, since it dodges the water shortage problem by enabling the same water to be used again and again. In industrial districts it may also provide cooler water than the local river, and this may help to increase the output of the chemical plant which uses it.

It may come as a surprise to many people to hear that I.C.I. has carried out a good deal of research on certain types of cooling tower, though not on the large concrete ones I have so far talked about. The Company has mainly been interested in rather smaller towers for use on its own plants. In these smaller towers the stream of air is produced by fans. (I.C.I. does own some large concrete towers, notably the two bottle-shaped towers at Billingham, familiarly known as Gert and Daise; but these are hybrids, since although basically of the chimney type they do contain fans as well.) Because of the fans, the large concrete chimneys are not needed and the towers are therefore much less conspicuous.

Some years ago it was felt in I.C.I. that the towers then on the market were not as efficient as they might be, and thus, although I.C.I. is first and foremost a maker

### THE GOOD COMPANION FIBRE (continued from page 295)

the silkworm and the spider make the scientist look silly, and the unfortunate fact is that the scientist does not know enough about the inscrutable proteins with which he is working to be able to tell why he cannot be as expert in fibre production as these remarkable insects.

The story behind the development of 'Ardil' is largely the story of man's quest for knowledge about proteins—the constituents of most vegetable foods which the chemistry of the human and the animal body transforms constantly into bones, flesh and hair. Proteins consist of immensely long chains of molecules (their molecular weights vary between 18,000 and 10,000,000) which are physically unstable and change easily (for instance the white of an egg, which consists mainly of protein, changes rapidly and irreversibly into a white solid when heated).

At the Dumfries factory he has one particularly impressive weapon to help him in his quest—an ultracentrifuge which develops a force similar to, but greatly in excess of, the fairground rotor which holds its thrilled victims stuck like flies to a wall. In the Dumfries ultracentrifuge a force equal to a quarter of a million times the pull of gravity is obtained—the same force as exists on the surface of the sun—and this readily causes protein molecules, in a tube in the rotor, to sediment out into layers, each layer corresponding with a definite type of molecule present. The machine can give in an hour and a half information about the structure of proteins which would take weeks to obtain otherwise. And in the process—incidentally—the peripheral speed of the rotor reaches 1200 m.p.h. or Mach 2.

of chemicals and not of engineering equipment, it was decided to try to improve them. The researches were successful, and the result has been the development of a much improved type of tower. Many of these have since been constructed, and tests have shown them to be as efficient as it was hoped they would be.

In accordance with the Company's policy of making available to all as much technical information as possible, this work has been described in articles in the technical journals. A book has also been written and published, under the auspices of I.C.I., about cooling towers, and this has the distinction of being the only one in existence on this subject (with the possible exception of one in Russian, unobtainable in this country).

At the beginning of this article I described the large concrete towers as being like cotton-reels, but this of course is only a very rough description and the shape is actually hyperbolic (some people would say diabolic!). The curious thing is that the reason for flaring out the upper portion remains something of a mystery. The first towers of this type were given this shape by van Iterson, the Dutch engineer who designed them towards the end of the first world war, and everyone else has followed suit. Yet nobody really seems to know why. It has even been suggested that this shape has been chosen merely because it looks nice. If this is so, perhaps engineers and scientists are human after all!

'Ardil' has benefited greatly from this constant research. In the laboratory, for instance, a protein fibre as strong as silk has been produced from peanut meal. 'Ardil' already has its attractive characteristics—it is warm and soft and absorbent, non-irritant, and moth-resistant. New qualities, including that of greater strength, may soon be added.

The development of 'Ardil' has been, and is, a scientific adventure. It also has its social significance, for 'Ardil' is a democratic fibre. The phrase is a reference not only to its price, which is a good deal lower than most grades of wool, but to the type of textile luxury which an inexpensive man-made fibre can bring to the man in the street.

From the skilful mixing of 'Ardil' and cotton a new class of fabric is emerging, full and warm, with good handle, drape and crease-resistance—a fabric that possesses the "woolliness" of wool but is, at the same time, completely non-irritant.

A "revolution" in fibres is taking place at the moment and to a large extent it is the British public who will decide whether this revolution will bring new types of fabrics and clothes or whether traditional conservatism will prevail. For the weaver will not make a cloth unless he has good reason to think it will sell. And the person who will decide its saleability is the man or woman in the street. If he—or particularly she—exercises a slightly more adventurous choice in the future, new and remarkable fibre blends are likely to fill the shop windows to an ever increasing extent. In this revolution 'Ardil' will play its part—the part of a key fibre in a time of far-reaching textile changes.



# THE DUKE'S STUDY CONFERENCE

*Ten people from I.C.I. attended the Duke of Edinburgh's Study Conference this summer. Here are two impressions—one from the chief industrial officer of I.C.I.A.N.Z. and the other from a staunch trade unionist. Both found the Conference worth while.*

*Mr. R. F. Maddison, chief industrial officer, I.C.I.A.N.Z., writes:*

The Conference was no ordinary conference, and those who shared in it came to think about it as a great experiment where it was not intended to put across any particular ideas or to consider any resolutions. Its purpose was to define and study human problems of industrial communities in the Commonwealth and Empire; to pool individual experience; and to hear views and opinions drawn from all fields of industrial activity.

The Conference provided unique opportunities of doing these things—perhaps the first opportunity—and it was good to see approximately 280 people, of widely varying backgrounds of experience and culture, of creed and colour, searching enthusiastically for the answers to the problems of industry as far as they affect individuals and the communities in which they live. This was the real purpose of the Conference. An Australian member who is a union executive in his own country put it this way: "I think the Conference is good because no particular line is being pushed. We contribute what we can and learn what we can. We don't come to any conclusions, excepting private ones."

The fair assumption underlying the Conference was that industrial events and happenings are mainly influenced by people; that the selection of Conference members made it likely that they could be the decision-makers of the future; and that the effect of the Conference on their experience and understanding would enable them to make wiser decisions, whether they were required now or in five or ten years' time.

After the circulation of background papers and after background talks, the Conference divided into twenty study groups, each with fourteen members. The typical group consisted of four members from Britain and one each from ten other countries. Each group had a British chairman and a female secretary. Group chairmen were men (and one lady) of considerable talent and experience, and their task of co-ordinating the activities of fourteen complete strangers of different countries and backgrounds was no mean one. At the end of each plenary session the individual groups discussed and studied the talks and the papers, sometimes arguing far into the night.

After the plenary sessions the groups left Oxford for

Study Tours. For example, the group whose main subject was "Agricultural Communities" with the subsidiary subjects of "Education and Training" and "Family Firms" visited Norfolk; the group dealing with the subject of "Docks and Seamen" went to Liverpool; and the group considering "Housing and Travel" went to the Tees-side. The purpose of the Study Tour was not to look at plant and machinery but to see how industry of different ages and kind fitted the life of the industrial communities in Great Britain.

The co-operation during the Study Tour at all levels, inside and outside industry, was outstandingly good. Questions of all kinds were addressed to managing directors, foremen, workers, school and housing authorities and other county officials, and replies were given generously and with candour. Some of the questions may have appeared too searching or unduly inquisitive, perhaps nearly rude; but always the answers were given with frankness and courtesy.

The Conference finished with reports from the groups. But it has not ended, because its results are of the continuing kind. Each member has taken with him something which is immensely good and each decision he makes in the future will be coloured and be made better by what he learned in that company of men who were privileged to share a long-lasting stimulation.

*Mr. W. E. Garrett (Prudhoe Works, Billingham Division) writes:*

With ten other employees of I.C.I. I was a member of the Duke of Edinburgh's Study Conference.

At the outset I was terrifically impressed by the organising staff, who did an enormous amount of preparatory work. Their enthusiasm was undoubtedly contagious, for it soon infected the Conference members who set to their tasks with a will, and in a short while we were involved in a fifteen-hour day. It was only towards the end of the three weeks' conference that I realised that I, a trade unionist and a staunch advocate of the forty-hour week, had also been involved literally up to the neck.

I sensed during the early days of the Conference a certain tenseness between the overseas members of the Commonwealth who came from countries where inter-racial issues are predominant. This tension was soon

eased by some subtle blending arrangements being carried out by the Conference staff. Certainly it appears to me to be rather tragic that we as members of the Commonwealth, who could live together so closely interwoven for three weeks, should make bitter issues with one another in our own countries.

As a trade unionist, I was, of course, interested in the different forms of joint consultation that operated within the many firms we visited. The pattern varied from the shop steward who could walk straight into the manager's office, to the shop steward who had to struggle through a system closely resembling a family tree.

Strangely, both systems appeared to work reasonably well.

Now many management members of the Conference were people who were highly specialised in their own industrial techniques. They certainly gained a greater knowledge of this highly industrialised country of ours. Some expressed great satisfaction at having spoken to a real live shop steward. On the other hand, sometimes disappointment was expressed at the fact that these shop stewards were not the fire-eating ogres as many are so wrongly portrayed. Instead, they saw reasonable persons with a great loyalty to the firm for which they worked.

The Conference was decidedly one of contrasts. One day there was a lunch on a Cunard liner and then the inspection of the Lascar crew's quarters on a tramp ship. We attended a garden party at Buckingham Palace and toured the Irish slum quarters of Liverpool. There was a sherry party at the Mansion House given by the Lord Mayor of London and a cup of tea in a dockside canteen.

As usual there was the element of humour. It was worth recalling just two incidents. One took place when a member of my group was proposing the vote of thanks at a dinner given by the Lord Mayor of Liverpool. With due solemnity he thanked the people of Tyneside for their hospitality. The silence was most embarrassing. The other incident concerned an Indian who practised yoga by actually standing on his head for ten minutes every day. However, we felt that he had gone to the limit when on one occasion he carried out his exercise in the compartment of a train travelling at a fast speed.



*The Duke addressing the Conference at Oxford*

(Photo: Oxford Mail)

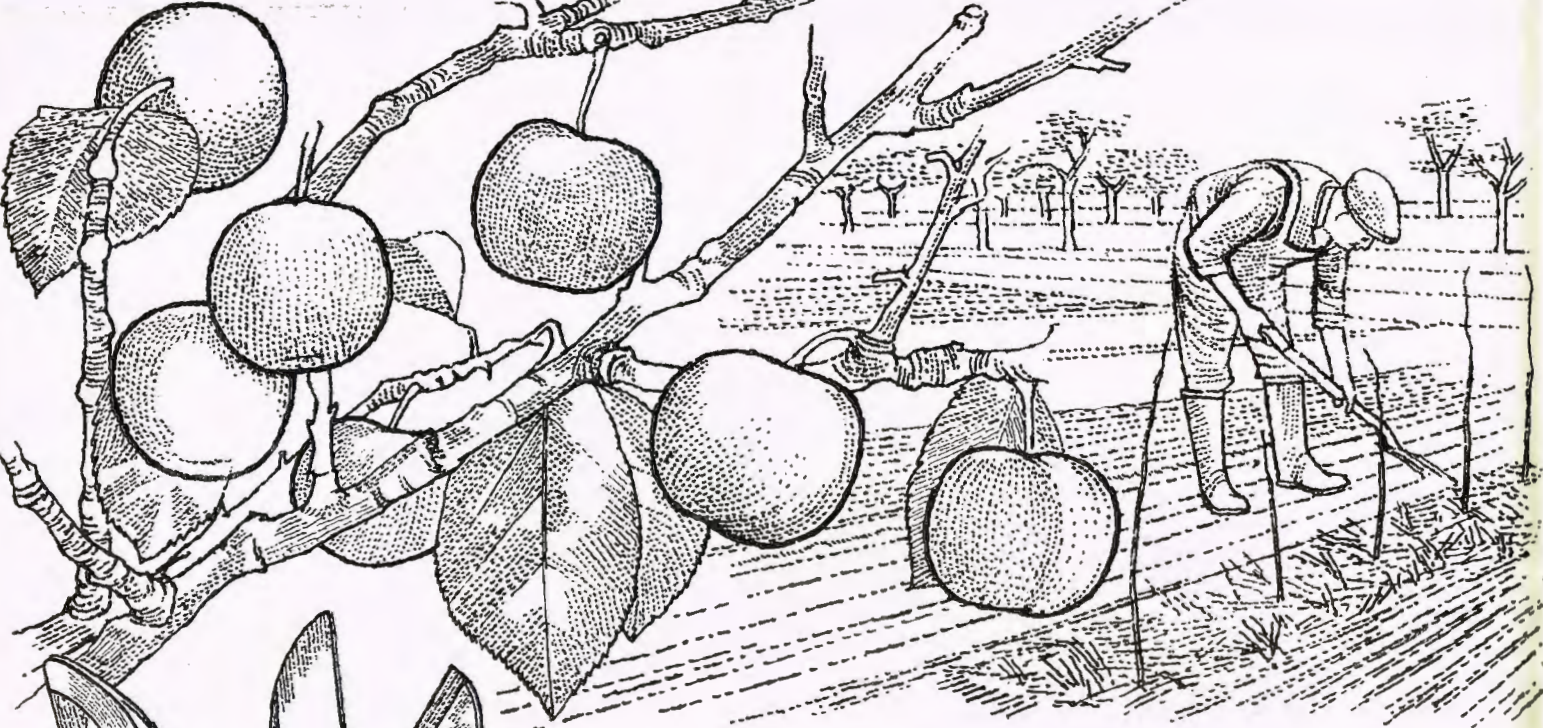
Since my return from the Conference I have often been asked, was it worth while and what did you get out of it? I am sure that the Conference brought about the realisation that platitudes are no longer desirable in industry today. Sincere action is what is needed. It finally killed the view that the worker is just a tool—a hand. Instead emphasis was placed repeatedly on the fact that the people in industry have the power to reason; that there is dignity in their being workers; and that the worker has rights as well as duties. If these views are sincerely held by all who attended the Conference, whatever status they have in industry, then on this score alone the Conference will have been worth while.

It is most difficult to find any faults with such a well-organised conference, but I do feel that the timetable was rather tight. This was regrettable because many of our overseas members did not have the time to steep themselves in the history of Oxford. Possibly some of the lectures could have been eliminated, then more time would have been available for discussing some of the excellent papers that were read out at the Conference. As one who has experienced the agony of sitting on a hard seat during university lectures, the punishment at Rhodes House lecture hall was just as severe.

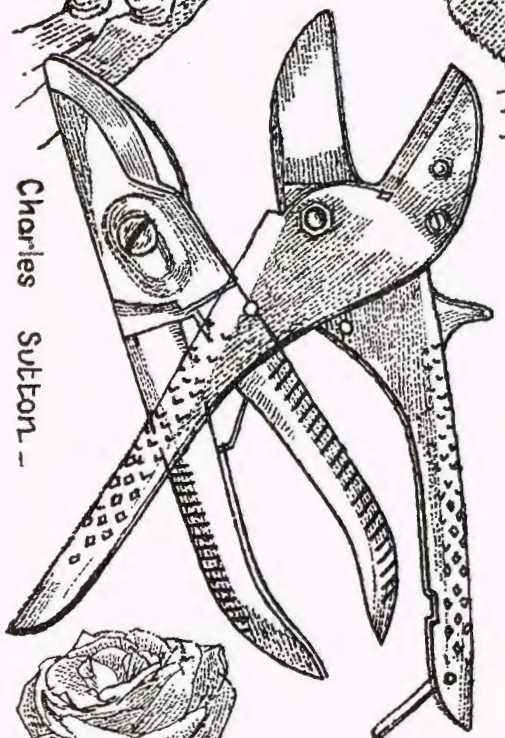
Finally, we were indeed fortunate to have as our president the Duke of Edinburgh.

This Conference re-affirmed the widely held view that the Duke is an extremely capable man, and at Oxford he carried out his tasks with an exceptional display of ability and wit.





Charles Sutton



OCTOBER is an ideal month to order any roses you may be requiring for autumn planting. Many amateurs leave their orders until the week before the trees are actually required and are then unable to obtain some of the varieties they particularly wanted. Certain varieties tend to sell out soon after the planting season begins. For example, the crimson-scarlet Frensham (probably the most outstanding and easy-going of all the floribundas) was very difficult to secure after last Christmas, as demand all over the country had been exceptionally high.

Frensham is claimed with, I think, some justification, to have the longest flowering period of any rose. It will bloom more or less continuously, even in prolonged drought, from late May to October. If you are keen on a rose hedge, Frensham is unequalled for this purpose. It will grow to 3-4 ft. if lightly pruned and should be planted in a single row, spacing not less than 2½ ft. apart. Unlike most roses, it has practically evergreen foliage.

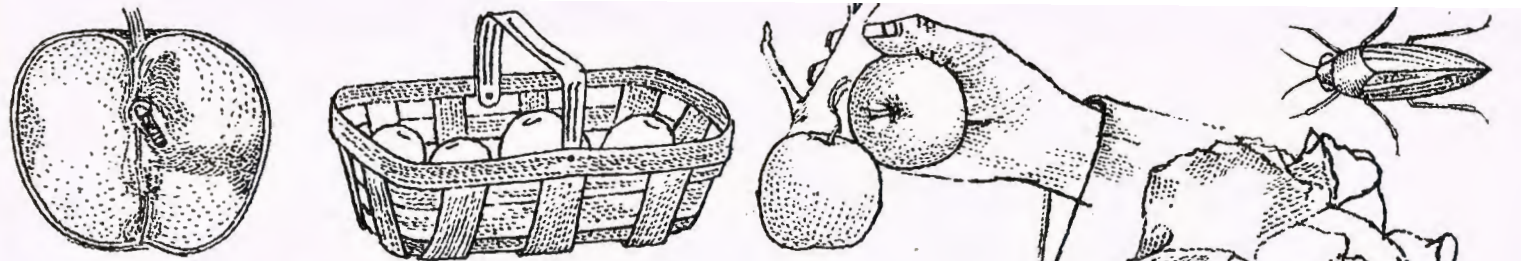
The floribundas are becoming increasingly popular in this country, as they are so adaptable, flourishing in situations where certain hybrid teas give indifferent results. Some of the best post-war varieties have been raised in America by E. S. Boerner. His success may well be due to the fact that there is a plant patent law in the U.S.A. which gives a small monetary return to the raiser for every plant sold of a patented variety. These

royalties have undoubtedly enabled a number of American rose nurserymen to spend large sums on research, and the general standard of the new varieties from the States is consequently extremely high.

Roses raised by Boerner include the multi-coloured Masquerade, which has yellow and red buds, opening to yellow, salmon flame and finally deep red; the creamy-yellow Goldilocks; the yellow and pink Yellow Pinocchio and the exquisite salmon-peach Fashion. The latter is unfortunately liable to rust in some areas, but at least one well-known nurseryman who grows several hundred thousand trees annually has found that the thiram fungicide marketed by Plant Protection Ltd as 'Tulisan' is the complete answer.

It is only fair to add that not all the best floribundas have originated in America. Frensham, which I mentioned earlier, was raised by an English amateur enthusiast, Albert Norman, who was, incidentally, a diamond setter by profession. Yellowhammer, the first yellow floribunda which really keeps its colour in hot weather, came from the Northern Ireland firm of McGredy's.

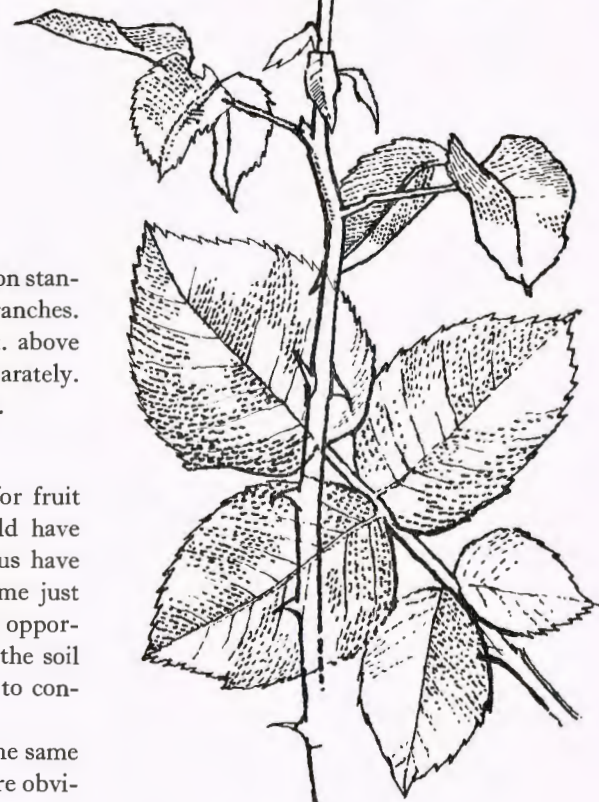
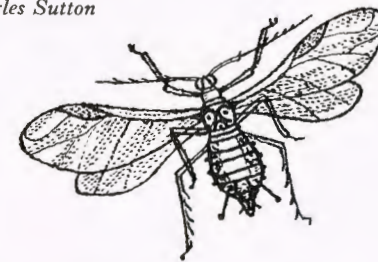
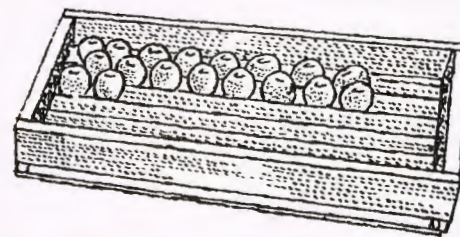
If you prefer a more formal, stylised type of bloom, choose the hybrid teas rather than the floribundas. Obviously you will not obtain the same number of blooms, but is not quality sometimes preferable to quantity, even in this age of standardisation and regimentation?



# Garden Notes

By Philip Harvey

Illustrated by Charles Sutton



The majority of the newer hybrid teas are decidedly better growers than pre-war introductions. Good pinks are numerous. I can specially recommend Margaret, which is a bright pink, producing quantities of blooms on long stems. They are very full and reputed to have seventy petals! Michèle Meiland is light pink and coral, the small, dainty blooms having reflexing petals. This rose is perfect for table decoration. If you want a pink for exhibiting at the local show, try Dorothy Anderson, which is a light pink, again very free-flowering and also exceptionally long-lasting. Ena Harkness, Josephine Bruce and Mme Louise Laperrière are outstanding reds. I cannot detect much scent in Ena Harkness, but the other two are highly fragrant. Spek's Yellow, Golden Masterpiece and Fantasia are among the best yellows, while Tzigane, Sultane and Gay Crusader are bicolours in varying shades of red and yellow.

There is still time to grease-band your fruit trees, though this job should be tackled without delay, as the wingless females of the winter, mottled umber and March moths are now laying their eggs on the fruit buds, spurs and in cracks in the bark. A single female can deposit as many as 400 eggs.

By cutting some 'Stictite' ready prepared bands to the required length and tying round the tree trunks you can trap and hold these moths as well as weevils, capsids and other crawling insect pests. Place the bands as

high up as you can on bush trees and on standards about 1 ft. below the main branches. If the branches start lower than 2 ft. above soil level, band each branch separately. Always band supporting stakes as well.

Have you prepared the ground for fruit tree planting? In theory this should have been done months ago, but few of us have vacant plots of land at any given time just waiting to be dug and manured as opportunity arises. Provided you prepare the soil several weeks ahead to allow it time to consolidate, all should be well.

If you are able to group together the same kinds of fruit, spraying and feeding are obviously simplified. For example, apples, red currants and gooseberries demand plenty of potash, whereas black currants, pears and plums require more nitrogen. Plums and cooking apples are possibly the most adaptable of all fruits and will succeed on almost any soil.

Dig the ground two spits deep and work in ample supplies of compost, hop manure and similar humus-forming materials. Never allow manure to come in contact with the roots but mix it freely with the soil, making certain that it is thoroughly rotted.

Most fruits are at their best on slightly acid land, and there is no need to apply lime unless the soil is markedly acid. You can easily ascertain this by means of a BDH soil testing outfit, which is obtainable through any good seedsman or garden shop.





# Know Your Weather

By Lawrence Hogben

We cannot all be weather prophets nor would we wish to use the jargon of the weather forecaster. But we can learn to recognise the different types of clouds, what they portend, and why they occur.

*Colour photographs by G. F. Allen*

**A**BOLISH the clouds which "cast the shadow crab upon the land," and sunshine would last longer in the British Isles than the working week. In fact, for over 70% of our daylight hours clouds hide the sun from us. They offer us, as inequitable compensation, rain; but add, as a splendid make-weight, variety and beauty. To know how, why and when clouds form and disappear demands a lifetime's study and some tricky physics; but many of the processes are simple enough.

Breathe out heavily on a cold day. A cloud forms in the air, just beyond your mouth; cease to breathe out, and the cloud dissipates.

The clouds in the sky form and dissipate like this. They start with a supply of fairly moist air. This moist air is cooled by being lifted in one way or other; and if it rises and cools far enough, then inevitably it will be unable to retain all its own moisture as invisible water vapour, and visible drops of water will appear. These drops are the clouds.

Nature provides several means of lifting moist air. Each of these may lead to the formation of its own particular kind of cloud. *First*, the most obvious compulsory lift is the range of mountains towards which the wind is blowing. Quite often with a westerly

wind blowing from the west coast one sees thick clouds forming on the mountain range to the east. *Second*, as effective as mountains in raising moist air may be a completely different obstruction—a mass of cold air. Suppose a current of relatively warm moist air meets a current of cold air. If the contrast in their temperatures is sufficient, the warm moist current mounts over the cold air, and clouds will form as on a mountain range. This, in the meteorologists jargon, is a "front," and in temperate latitudes is associated with much of the cloud (and rain) which we encounter.

If you are in the cold air and one of these fronts is approaching, the cloud signs are often quite distinctive. To begin with, very high in the blue sky you see feathery cirrus; these are followed by the milky veil that causes the ring round the moon; gradually the veil lowers and thickens until it forms a complete layer of medium-height cloud. It goes on lowering and thickening until the sky is covered with a low, thick, threatening layer cloud. A few hours of rain with strong winds may follow at the boundary between the cold and warm air, and if you have read the cloud signs correctly you will have had many hours' warning.

*Third*, another large-scale means of lifting air is found near the low-pressure centre (or depression)



SPROUTING CUMULUS CLOUDS caused by upward bursts of warm air at Strand-on-the-Green in warm sunny weather. Enjoy the sun now because (below) BIG CUMULUS CLOUDS have developed at Twickenham Ferry. Showers are likely before the evening, but most of the night will be clear and starlit.





where there is much upward movement. This is shown by thick cloud which extends for many miles round the centre.

*Fourth*, in winds from the north and west are commonly found the last kind of air lift, namely convection. If the air is warmed by a warm spot of ground, it may go up and up; it may form cloud, say at 2500 ft., and a particular parcel of air may go on rising while cloud forms in it to a tremendous height. It may end up as a harmless friendly fine-weather cumulus, or it may end up as a storm-laden cumulonimbus.

So much for the forces which make the moist air rise and cool, thereby causing cloud. A certain kind of cloud, however, can be made rather differently. It happens like this.

### *Fine Weather Cloud*

Near the centre of an area of high pressure (an anticyclone) there is a mass downward movement of air above the bottom layers of the atmosphere. This descending mass forms a cloudless lid which confines fog or cloud to the bottom layer of air.

Imagine a car travelling over an extremely rough irregular road, and imagine the paths taken by, say, a white dot on the rim of a tyre as it bounces up and down and round and about—sometimes higher, sometimes lower. Try to think of turbulent air travelling over rough land as a whole collection of such dots. In a strong wind moist air is thus lifted and lowered and mixed thoroughly in the bottom few hundred feet of air, and a thin cloud layer forms under the cloudless lid mentioned above. This kind of cloud is often observed with easterly winds, and calculation of just when such a layer will break is an amusing mathematical exercise for meteorologists, who are often mortified by the refusal of the clouds to dissipate at the appointed time.

### *Will it Rain?*

This raises the awkward question: "When is a cloud just a cloud full of water but not raining, and when does it become a rain cloud which sheds its water?" There is no simple answer to this.

It does seem, however, pretty general that *cloud* droplets do not succeed in coagulating into larger *rain* drops unless they are in the presence of ice crystals. This means that they will be well above the freezing level in the atmosphere. If a cumulus cloud is sprout-

ing really vigorously at the top before early afternoon, then it is a fair bet that before the day is out it will cause showers somewhere on its path. If, however, there is no sprouting at the top you can be reasonably sure that it will be a fine day. In most cases you can be fairly confident in any case that the cumulus convection clouds will die away after evening and that fairly soon after sunset there will be a clear sky.

### *Rain-making Trials*

What about forcing the cloud to rain? Can you make rain? From work which has been done since the war it seems that, if conditions are suitable (and this is a very important proviso), there are two main methods which may increase the amount of rain which would have fallen anyhow. (Normally there is no question of making rain when none would have fallen.)

The first method is to drop from an aeroplane dry ice, which cools the cloud so much that ice crystals are formed in it alongside the water droplets already there. The second method is to provide a substitute for ice crystals, the very similarly shaped crystals of silver iodide. The presence of these may induce rain in greater quantities than would otherwise have come from the cloud. (Silver iodide particles are expelled from a burner on the ground.)

### *Many Failures*

Controversy still rages about the results. There is little doubt that the aeroplane-dropping method has had a great number of failures, mainly because of the fact that the dry ice has been released into unsuitable clouds, and is very expensive. The silver iodide method, as well as being cheaper, claims more successes.

Over most of this country, however, it is unlikely that we shall succeed in making our clouds rain more than at present, although in different conditions in Spain successful cloud seeding operations have assisted hydro-electric generation, and in America the severity of hailstorms has been decreased. At enormous expense we can burn up fog, or sometimes create a temporary clear patch in a layer of cloud. But this is about all.

In general, then, with only slight hopes of abolishing our clouds, perhaps we do best to live patiently with them, admire their beauty, and, when possible, accept their warning by carrying a mackintosh.



RED AT NIGHT, the delight of the shepherds of Loch Broom. But the trails of high cirrus cloud are signs of a depression 300 miles west, in the Atlantic. It will cause trouble but not for a day or so when (below) FINE WEATHER IS NEARLY OVER at Bempton. Down as cumulus is being replaced by a thin layer of cirrus and lowering clouds which betoken the front—and rain and wind.





# NEWS IN PICTURES



Wives and children of employees of Suez Contractors (Ammunition) Ltd. were flown to Britain from the Canal Zone in August. Above: a Britavia stewardess with arrivals at Blackbushe. Left: Evacuees are welcomed on arrival at Elvetham Hall, used as a temporary reception centre. Below: The I.C.I. reception team. (Story p. 313)



Children's Camp, 1956. This year's camp was held at Dyserth, North Wales, under the auspices of the Alkali Division's Children of the Unemployed Fund. Above: General view. In the foreground a group of Alkali Division camp helpers. Left: Occupants of one chalet pose for the Division's staff photographer



Sir Edmund Hillary, leader of the New Zealand Antarctic Expedition which leaves at end of year, shows team's equipment to Mr. B. R. Law, deputy chairman of the Ross Sea Committee and a former managing director of I.C.I.N.Z.



Drums of indigo being unloaded from an Aden Airways Dakota at Baihan on the Yemen border. Owing to poor land transport facilities most supplies of dyestuffs for the Aden hinterland are delivered in aircraft chartered by local merchants





**Eston Nab** monument, erected on site of old beacon tower dating from Napoleonic wars. Above: Lt.-Col. J. B. W. Pennyman unveils the plaque. Also in photograph is Mr. C. M. Wright (chairman of Wilton Council). Old tower was look-out post during last war



**British Olympics** selection for the 400 metres and 4 × 400 metres relay at Melbourne, Peter Higgins (extreme right) is pictured winning the 100 yards at Billingham Synthonia Club's athletic meeting at the end of August. A London schoolteacher, Peter is the son of Mr. Francis Higgins, chargehand plater in Engineering Works.



**Latest-type furnace** for melting titanium now in use at the Witton plant is remotely controlled. Progress of melting is watched on a television screen



**Edward Allcard**, who is soon to leave Britain on solo world trip in his yacht "Sea Wanderer". He is wearing a specially designed Cape Horn suit padded and covered with 100% 'Terylene'



'**Visqueen**' has now entered the Olympic field. To prevent concrete adhering to pine boards on the new cycle track, 'Visqueen' film was placed over the track and stapled in position. After the Games, the concrete on protective 'Visqueen' base will be peeled off to leave the boards unsullied for Australian cyclists to race on



"**Miss Steatite**" and "**Miss Porcelain**" (Miss Sylvia Guilder and Miss Janet Brewer, S.&P.P., Stourport). Sylvia was carnival queen at Stourport's Carnival



**At Farnborough.** De Havilland "Comet" Mk. II (above) and the only new prototype, the Vickers N113 naval fighter, were among aircraft finished in I.C.I. paints



**Letter of congratulation** from Sir Alexander Fleck for Mr. Jack Archer of Billingham on 50 years' service. Reading the letter at a gathering of Mr. Archer's workmates is Dr. A. G. Winn, Products Works Manager



**High jumper** for Northern Counties in A.A.A. championships at White City is Miss Wendy Fletcher (Castner-Kellner)



**Cooks** from Alkali, Dyestuffs, Leathercloth and Lime Divisions taking part in an emergency feeding training course. In the background are some outdoor ovens built by the cooks themselves. The food in the photograph was cooked in these ovens



# I.C.I. NEWS

## "ENDEAVOUR" PRIZES

THE prizes awarded to the winners of the 1956 *Endeavour* Essay Competition were presented on 31st August by Sir Raymond Priestley, President of the British Association for the Advancement of Science, during the association's annual meeting in Sheffield. In both quality and number the entries were well up to the standard of previous years: forty-four essays were received and the final selection of the prizewinners was difficult.

The competition is restricted to those under twenty-five years of age, and is designed to stimulate the interest of young scientists in the work of the British Association and to encourage a higher standard of writing in scientific work.

All entries are submitted under a code number: when the writers of the selected essays were identified they proved to be most satisfactorily representative of the Commonwealth. The first prize of fifty guineas was awarded to Mr. J. M. Vail, a graduate of the University of Manitoba who has had a brilliant career as a student of



"Endeavour" prizewinners Mr. W. Kemp (extreme left) and Mr. D. W. Stebbings (third from left) with Prof. D. A. Herbert, Sir Raymond Priestley, Dr. T. I. Williams (editor of "Endeavour"), Prof. J. K. Robertson and Sir George Allen



Sir Raymond Priestley (right) presents the third prize to Mr. W. Kemp

both architecture and theoretical physics, for an essay on "New Elementary Particles." The same subject was chosen by the winner of the second prize of twenty-five guineas, Mr. J. W. G. Wignall (24), now at Cambridge; he is an Australian and formerly at the

University of Melbourne. Neither Mr. Vail nor Mr. Wignall were able to be present at Sheffield, but they were represented respectively by Professor J. K. Robertson, a former President of the Royal Society of Canada, and Professor D. A. Herbert, of the University of Queensland.

The third prize of fifteen guineas, for an essay on "The Story of Steel-making," was awarded to Mr. William Kemp (23) of Glasgow University, who proved to be a prospective member of the Company. He was, in fact, due to take up his duties as a research chemist in Nobel Division the day after he received his prize.

The two prizes of five guineas in the junior section, for competitors under eighteen years of age, were awarded to D. W. Stebbings (17) of Culford School, Bury St. Edmunds, and Miss J. M. Weller (16) of Howell's School, Denbigh.

## I.C.I. AT THE BOYS' AND GIRLS' EXHIBITION

Hulton's Boys' and Girls' Exhibition, held at Olympia in London from 28th August to 8th September, was a curious mixture of space-ship fantasies, toys and ingenious efforts to interest schoolchildren in making their careers in everything from the manufacture of ice-cream to flying jet fighters.

The I.C.I. stand at the exhibition managed both to fascinate the youngsters and interest them in a career in the chemical industry. A plastics injection moulding machine was in operation on the stand making souvenir brooches in 'Diakon' and a laboratory glassblower was



The glassblower draws the crowds to the I.C.I. stand at the Boys' and Girls' Exhibition

present actually blowing complicated laboratory glassware on the stand. Added attractions were a showcase of live locusts and a miniature, laboratory-scale dyestuffs plant busily manufacturing a green pigment for all to see.

If these were the visual attractions of the stand, its purpose was more serious—to attract the younger generation into I.C.I. The stand described, with photographs and models, the contribution made by the chemical industry to Better Housing, Better Sport, Better Communications and Better Health. I.C.I.'s products were used to illustrate these points—"Terylene" sportswear, 'Alkathene' cold water plumbing, titanium, pharmaceuticals. Through this theme was woven the story of how young people, entering I.C.I., could play their part in this vital task. Finally, panels and brochures told the visitors how they could enter I.C.I., and what qualifications they need to do so.

## Farnborough

I.C.I. was also an exhibitor at this year's Farnborough Air Show, organised by the Society of British Aircraft Constructors. The products of three Divisions were featured on the I.C.I. stand.

A 'Marlite' tank—a new ultra-lightweight flexible fuel tank for aircraft produced by Marston Excelsior—was on display for the first time. The Metals Division exhibits included titanium sheet, strip, rod, wire, tube and forging stock, accompanied by examples of products fabricated from them. Paints Division showed a comprehensive range of metal pretreatment processes and paint systems for the aircraft industry, while the Plastics Division exhibit concentrated on 'Fluon' and 'Darvic' rigid p.v.c.

## HEAD OFFICE

### Operation "Nursery"

Head Office personnel played an important part in Operation "Nursery," the evacuation by charter airlift of the wives and families of employees of Suez Contractors (Ammunition) Ltd. Mr. H. R. Payne (head of Safety Department) offered the use of Elvetham Hall, which is only a few miles from Blackbushe airport, where the airlift planes landed. Safety Department also provided three members of the reception team—Mr. John Gardner, Miss P. Stevens and Miss Y. Olive. The team also included Mr. A. W. J. Cox (Travel and Visitors) and Mr. King of Metals Division.

First details of the evacuation came to Head Office on Monday morning, 13th August, and the first plane was due in from Malta at 8.30 a.m. on Tuesday with its load of tired and hungry passengers. Mr. Gardner at once telephoned Harrods, and ordered cots, playpens, nappies—the lot! And he had them at Elvetham Hall by Monday evening. He also contacted Mr. A. McPherson (Deputy Chief Accountant) and Dr. A. J. Amor, who both offered the full assistance of their departments. A local doctor was also recruited. At Elvetham Hall itself Mrs. Calverley, the manageress, quickly arranged extra beds, cut up old blankets for cots, ordered food—and all with only 50% of her staff.

At 8.30 a.m. on Tuesday the first plane landed at Blackbushe with five wives and seven children aboard. They were met by two members of the I.C.I. team, cleared through customs and taken by bus to Elvetham Hall. After a hot meal the travellers went to bed to rest. During the day they were interviewed by one of the team to find out their plans, if any, and on the basis of this interview travel arrangements were made and vouchers issued. Funds were produced—travel allowances, displacement allowances—and the mandates which the wives had from their husbands to draw money from their salaries were processed.

During ten days they received 62 wives and 71 children of all ages, including three sick youngsters. They acted as travel agents, baby-sitters, universal suppliers and the Bank of England. They kept this up, on one occasion at least for twenty-one hours. (See pictures on page 308.)

## ALKALI DIVISION

### Winnington's Gardeners

Entering a competitive flower show for the first time, Alkali Division's Winnington gardeners, under foreman gardener W. Dale, won a prize in each of the five classes in which they exhibited, at the famous Shrewsbury Show, in August. They won second prize in the flowering plants class (they showed fuchsias), third prizes in the classes for coleus, begonias, and fuchsias, and in the section for general greenhouse plants, they took fourth prize. All their exhibits were grown in close proximity to Winnington Works.

At Southport Flower Show on 22nd August, the Winnington gardeners did even better. Entering only two classes this time, they won the first prize for a dining room



decoration of pot plants, and second prize for a miscellaneous group of flowering and foliage plants.

The Gardening Section of the General Services Department at Winnington Works has done much in recent years to beautify the works surroundings and has provided excellent floral decorations for the various division functions that take place throughout the year. The idea of competing against top-class professional horticulturists at Shrewsbury and Southport this year stemmed from the Departmental Manager, Mr. J. E. J. Nottidge, who has always maintained an active interest in the work of the Gardening Section.

### Paper Goods First Aiders

Three employees of the Paper Goods Manufacturing Co. were chosen to be members of the Surrey County colour party and guard of honour at the British Red Cross Dedication Service held at St. Paul's Cathedral. They were Mr. Bob Perkins, Mr. W. Carter and Mr. A. Ansell.

The Princess Royal, Lord Woolton, Lady Mountbatten and the Lord Mayor of London attended the service, and colour parties were formed from the City of London, Surrey, Sussex, Berkshire and Wiltshire organisations.

Bob Perkins has for many years served as a first-aider in both the Red Cross and the St. John Ambulance Brigade and holds the unique distinction of a long-service award in both organisations. He is now an officer, having



Lord Woolton inspects the Surrey Colour Party outside St. Paul's Cathedral. Photograph includes Mr. R. Perkins (right) carrying the Red Cross standard.

served 43 years, and was chosen as standard bearer on this memorable occasion. Wally Carter and Alf Ansell were members of the guard of honour and both have served in the Wallington Red Cross detachment for a number of years.

### "Thorium" to the Rescue

The I.C.I. motor vessel *Thorium* took in tow a drifting yacht on 31st July and brought her into Fleetwood after her two occupants had boarded the Morecambe Bay lightship for safety during the gale two days before.



I.C.I.'s m.v. "Thorium" unloading at Fleetwood after towing in the yacht "Osiris"

The *Thorium* was on passage from Llandulas to Fleetwood, with a cargo of limestone when her crew sighted the yacht *Osiris* off Rossall. There was a heavy swell running at the time, so the master of the *Thorium*, Captain John Atkinson, decided to stand by. After an hour and a half the swell moderated enough to enable him to put Able Seaman P. R. Bellwood on board the yacht. Bellwood made fast a tow line and stayed in the yacht until she was brought safely into Fleetwood.

The yachtsmen, two Londoners, had been reported missing after leaving Beaumaris, Anglesey, on Saturday, 28th July. After battling for hours at the mercy of the gale the next day, they had managed to bring their vessel alongside the lightship and climb aboard. Later the yacht broke away and drifted off into the darkness. The lightship crew radioed coastguards in the area and shipping was warned to look out for her. Meanwhile the Fleetwood lifeboat went out to bring the yachtsmen off the lightship.

### BILLINGHAM DIVISION

#### Silver Medal

Mr. Harry Franks, who until he retired because of ill health two years ago was a chargehand driller in the Anhydrite Mine at Billingham, was presented with the



Mr. Harry Franks (right) receiving his medal from Mr. Lothian

T.U.C. silver medal on 21st August. He received the medal in recognition of his 21 years' service as secretary of Billingham Trades Council.

Mr. R. Lothian, a member of the General Council of the T.U.C. and General Secretary of the Amalgamated Society of Building Trades Workers, made the presentation at Billingham Trades Union Club. He said Mr. Franks had not worked in the limelight but had done the humdrum tasks of the trade union movement quietly, efficiently and successfully.

### DYESTUFFS DIVISION

#### Born and Bred in the Works

Mr. C. Kenyon, who retired on 31st July after 47 years' service with the Company, was in fact associated with one of the founder companies of Dyestuffs Division from the day of his birth.



Mr. C. Kenyon

This remarkable association came about because his father was the Works Engineer of Levinstein Ltd., now known as Blackley Works, and Mr. Kenyon was born in a house, now long demolished, which stood within the works area. He started work in the Dyehouse of Levinstein Ltd. in 1909 when gas lighting by fishtail burners was the only source of illumination and eventually became a section head in the Division's Dyehouse which is now the largest service department in I.C.I.

#### Dr. H. Levinstein

Dr. Herbert Levinstein, the son of Ivan Levinstein who, in 1864, started the company which bore his name, and whose factory eventually became known as Blackley Works, died on 3rd August. He was 78. A number of people working in the Company today will remember him at Blackley, for he did not resign from the position of

technical director of the British Dyestuffs Corporation Ltd. until 1922.

Throughout his life Dr. Levinstein maintained a keen and active interest in the chemical industry and in the professional bodies connected with it. This interest was manifest right to the last and it was only earlier this year that he made a tour of Blackley Works in company with Mr. P. K. Standring, Director responsible for Dyestuffs and Pharmaceuticals Divisions. Among the honours which came to him during his career were the presidencies of the British Association of Chemists, The Society of Dyers and Colourists, the Society of Chemical Industry and the Institution of Chemical Engineers. He was awarded the gold medal of the Society of Chemical Industry in 1931 and the Hinchley medal of the British Association of Chemists in 1953; in 1947 he became Prime Warden of the Dyers Company.

### LEATHERCLOTH DIVISION

#### A New P.V.C. Fabric

Leathercloth Division is now manufacturing, by a completely new process, a P.V.C.-coated fabric which can "breathe." The new product, 'Vynair,' is the first of its kind to be produced in Britain. Its main use is expected to be in upholstery over foam rubber and similar foundations, and the covering of cushions on occasional chairs and stools of a contemporary type.

'Vynair' possesses all the durable and stain-resistant qualities of 'Vynide,' and on account of its breathable properties gives a soft cover type cushion while retaining the great advantage of being easy to clean. Marks can be removed with a damp cloth.

The colours in which the fabric is being produced have been specially selected to suit contemporary furnishing schemes.

### METALS DIVISION

#### Round the World by Canoe

"Three young people propose to tour the world by canoe and seek one other, male or female, to make up the party."

That was the advertisement which appeared in the Birmingham *Evening Despatch* nearly a year ago and which caught the eye of Mr. Ron Steadman, for the past four years a toolmaker at 'Lightning' Fasteners Ltd. He answered the advertisement, was interviewed and accepted, and has spent the last eight months getting to know the other members of the party (an insurance agent, a chiropodist and a carpenter) and exploring some 150 miles of inland waterways in Britain to gain experience in handling a canoe.

Pooled resources have produced two eighteen-foot



Mr. R. Steadman



canoes; passage money to Canada, where the adventure starts; and food, equipment and living expenses for about four months. After that they will work their way.

The party sails for Canada at the end of the month where they hope to travel across to the west coast and down through the Americas. Looking ahead to the last lap, they intend to return home across the English Channel by canoe—but Ron Steadman estimates that to be anything from two to ten years hence!

## NOBEL DIVISION

### Two Break the Century

Two employees of Ardeer Factory recently reached anniversaries which together add up to a total of 101 years' service to the Division.

On 29th August Miss Jean Leishman of Detonator Department ended fifty years' service with the Company;



Miss Jean Leishman

Mr. Fred Duff

she started work at Westquarter Factory box store in 1906—at a wage of 9s. 7d. a fortnight! She was transferred to Ardeer in 1937. In the whole of her 50 years' service, Miss Leishman has never once been late. For 47 of those years she was engaged in examining and counting detonators. She reckons that in that time she has counted nearly 1000 million detonators.

The other long service employee at Ardeer is Mr. Fred Duff, now a fitter's assistant. He came to Ardeer nearly 20 years ago from Gatebeck Factory where he was employed as a cooper. Mr. Duff's 51 years' service is the latest instalment of a tremendous record of service in the gunpowder industry rendered by his family. The family originally came from the Roslin district where they worked as coopers in the old Roslin Factory. Not only his father, but his grandfather and great-grandfather before him were coopers working in the industry.

### Kelvin Hall Show Successes

The Scottish National Sweet Pea, Rose and Carnation Show held recently at the Kelvin Hall, Glasgow, was a scene of triumph for four Ardeer employees who between them collected twelve first prizes and three premier awards.

Mr. Adam Wilson of Ardeer Electrical Department won a gold medal and five first prizes with his carnations.

Among his prize-winning exhibits were two premier blooms of his own raising—one a white ground flower heavily marked in rose pink and named after his wife, Helen, the other a yellow ground picotee.

Three other Ardeer men also featured in the society's carnation prize list. They were Mr. Tom Wilson (Blackpowder Department), Mr. James Millar, a fitter in Engineering Services Department and pensioner Mr. George Lennon. Competing in his very first show, Mr. Wilson won three novice-class sections and took second place in a fourth. Mr. Wilson's score sheet was four firsts, a second and a third, and Mr. Lennon had one first and one third prize.

## PLASTICS DIVISION

### It's a Bee's Life under 'Perspex'

Few bees can have a better claim to fame than those recently installed at the Dorman Museum, Middlesbrough, for instead of living in comparative obscurity in the conventional type of hive, they enjoy full prominence in one made of  $\frac{1}{4}$  in. 'Perspex.'

The hive is rectangular in shape and measures 24 in.  $\times$  15 in.  $\times$  2 $\frac{1}{2}$  in. It is mounted on a swivel so that the observer can have a complete view of what is going on inside. The bees enter and leave their home by means of a small 'Perspex' corridor which leads from the hive to the sill of a nearby window.

Apart from the obvious advantages of using 'Perspex,' it enables the temperature of the hive to be kept at around 96° F., which is considered most suitable for the bees. Under 'Perspex' every stage of a bee's life from the hatching of the eggs to the removal of the bodies of dead bees can be observed.

## OUR NEXT ISSUE

The November *Magazine* starts with an article by the Editor on a visit to Bozodown House, Pangbourne. There, on the foundation of work done by a small pioneering team over the last ten years, the Company recently set up a laboratory to do fundamental research for the development of automatic process control.

Our colour feature is on the old Derbyshire custom of well-dressing. Both the photographs and the accompanying article are by Crichton Porteous, whose book *The Beauty and Mystery of Well-dressing* is the standard work on this subject.

Other features will include an account of an attempt to climb the highest peaks in England, Scotland and Wales in record time by a member of Dyestuffs Division, Trevor Buckland, and a descriptive piece by J. R. Graham (Plant Protection) of a visit to two tribal strongholds in the north-west frontier region of Pakistan.



# Mad Dogs and Englishmen

By Gordon Long

Other people do not always see the Englishman (or the Scot, or the Welshman) as we see ourselves. Here are some witty examples of the other man's viewpoint, gathered during wartime travels.

Illustrated by Cockerill

As Mr. Malenkov would probably tell you at once, it was Robert Burns who said how wonderful it would be if only we had the power to see ourselves as others see us. What does the foreigner—that strange, benighted animal compelled to live out his days beyond the Cliffs of Dover—think of us, and our morals, our language, our customs? Does he think we are the good sports we consider ourselves to be? Does he think we are backward in coming forward, modest in our national claims? Asking the foreigner what he thinks about these questions is always interesting, and sometimes shattering to one's preconceived notions.

I had plenty of opportunities to gauge the other man's viewpoint during the war, when, along with about a million others, I was launched on a grand tour of the Mediterranean basin which took me through the countries of the Levant, along the North African seaboard, through Sicily and Italy, and finally to Greece. In all of these countries the people had an opinion of the British. It could hardly have been otherwise, with so many of us around, and most people were only too anxious to talk, so long as one went about it in a friendly way. A frightened man did not, of course, express a true opinion. He said what he felt you wanted him to say, but once he was sure that the khaki hordes rumbling through his village were not there to smash and to sack, he would talk unreservedly.

Having chatted with Ahmed and Antonio and François and Kosta, often in their own homes, I am now convinced that only the British believe that the British are modest. No one denies that we have much to blow our trumpet about, but there is a general con-

sensus of opinion that we are virtuosos on that particular instrument. And the measure of our immodesty is the time we spend propagating the notion of our modesty.

British men in general are considered to be unbalanced. British men invented the club to escape from women, whereas men of no other race wish to escape from women—or, at least, not so badly. The club idea, like some wines, does not travel well, and rarely succeeds in foreign countries, for the reason I have just given. Only once did I hear the club idea defended, and that was by an Egyptian who was married to a beautiful Armenian girl and who said that the two worst things that ever happened to the Briton were the British climate and the British woman. She was, he said, at all times dull and dispiriting as a companion, and dowdy to look at. She had, in his view, as much dress sense as a Bactrian camel. I know that these views will make painful reading for about half the readership of this article (if anybody is reading), but they were strongly held by a man who had been around quite a lot, and one only had to meet his wife to see that he was no slouch in his appreciation of feminine good looks and good company.

I remember on another occasion sitting in the Western Desert with some men of the Free French Brigade discussing the odours characteristic of different countries. "I would always know if I were in France," I said, "because the smell of garlic and your black colonial tobacco hangs in the air everywhere." I ventured to suggest that garlic was a potent Gallic weapon, particularly in the mouths of their rugby forwards, for, if all one hears is true, there has



been many an International occasion when our own packs have been nearly overcome in the scrums by the baited breath of some of those giant forwards from around Toulouse.

By contrast, I always thought that our country was odourless, and I said so: but none of those who knew these islands would agree with me. In fact, they discovered among themselves a pretty general agreement on what the smell of Britain was. I said I hoped it was not unpleasant, and there was a divergence of opinion as to whether it was or it was not. All agreed that our hotels reeked of boiled greens and disinfectant. But one or two reckoned that "personal freshness" was not so outstandingly good as I had thought, even though our characteristic odour was that of soap. Not the clean tang of fresh soap, unfortunately, but that of a soapy facecloth put away damp in a box and kept there too long. Not very pleasant to sensitive French nostrils!

Talking of hotels and restaurants brought us round to a discussion of eating habits. A Greek naval officer once told me that he had observed and admired the eating habits of the British, and these Frenchmen shared his respectful opinion. Compared with other races we were dainty feeders, they thought, consuming our dull and unimaginative meals in silence and with delicacy, but our little café restaurants they considered cheap and nasty. All those bottles of sauce arrayed on the eating tables! There was general amazement at the Briton's relish of these fierce concoctions and at the way he lashed them all over his meals. "Ah, you English!" said one man from Rouen. "How you must hate the taste of food!"

Our language is, of course, a major obstacle to bridging the gap with other people. English, it appears, is unspeakable in more senses than one, and from those who attempt to learn it the story is always the same. It is so easy—to begin with. One makes great strides, one learns so many simple verbs, one extends the vocabulary, but one does not understand the *spoken* English. The root of the trouble is those verbs whose meaning becomes entirely changed when a preposition is attached to them. Thus, the foreigner who makes great strides in his early attempts to master the language is suddenly brought up short by excruciating discoveries like this. To pass? Yes, everyone knows the verb, to pass. But to pass out means to faint, to pass away means to die. "Ah, monsieur, this is too much!"

To put? Yes, one understands the verb to put.

But to put off is to postpone, and to be put out is to be angry, "And, monsieur, this makes me very angry."

To give? Yes, one knows well this verb. But to give off is to emit, and to give in is to surrender. "Ah, monsieur, this is too much, we give in!"

Almost as incomprehensible as our language are some of our customs. The Briton stands to drink, while other races sit. The Briton marries for love, while other people are more sensible about these things. The Briton has his milk and his newspapers left outside his door, and nobody pinches them—or nobody did at the time of which I am speaking—but, as an old Athenian gentleman once warned me, our much-vaunted honesty would suffer a serious setback if ever our country felt the cold blast of economic stringency, as indeed it did, particularly just after the war, with a painful falling off in moral standards, as everyone knows.

Ours is indeed a strange, often unique, country, or so they tell me. Ours, for example, is the country of flag days.

"Do you really have flag days?" The question came to me one day while I was sitting with some Greek troops on the side of a mountain that looks down on the town of Salonika.

"Indeed we do," I said.

"And the people put money into little boxes?"

"Yes."

"And what happens to the little boxes?"

"Why, I suppose they go to some central clearing station where the boxes are carefully unsealed and the money made over to the charitable organisation concerned."

The Greeks laughed outright. It was the biggest joke they had heard in years. But, observing that I had been piqued by their laughter, they hastened to assure me that, though it was really stretching credulity too far, they would believe me, because it was me.

They were equally curious about our rationing system. "Did the King George and the Queen Elizabeth have ration books during the war, and the Mr. Tsortsil (Churchill to you) too?" It was hardly believable.

"It would never work here, of course," they said. "We did have a rationing system in the early days of the war, rather like yours, but none of us ever got anything out of it except margarine and matches! It was doomed to failure. Nobody can ration the Greeks, least of all the Greeks!"



"You English! . . . How you must hate the taste of food! . . ."

I forget much of what I was told about this ill-fated scheme, but I do remember this. The authorities took every conceivable precaution to ensure that the issue should be one person, one ration book—and no Trojan horses or other Hellenic funny business.

When the time came, however, to take a count, it was found that the number issued was enough to provide one ration book per head, not only to every Greek man, woman and child, but also to all the sheep and goats in that remarkable kingdom!

Talking of animals reminds me that most foreigners whom I have met find something faintly absurd in our near idolatry of the lower animals. I remember an old man being pointed out to me on the quayside in Tripoli as once having kicked into the water a man who had just thrown in a dog with a stone tied to its neck. From that day forward this ancient Italian was known throughout the community as "the Englishman."

Foreigners also find something ridiculous in our delight in the grotesque, misshapen dogs—the so-called "breeds" of all kinds—which we have artificially created. To many foreigners the Scotty, the

Airedale, the Dalmatian—and most of the rest—look just as nauseating and ridiculous as some of those ineffable goldfish created by Japanese breeders.

With all our eccentricities, however, I think the general feeling is that the British are often deserving of admiration, always of respect. I never talked with anyone who did not credit us with cool, shrewd brains (seen at their calculating best within the realms of diplomacy) and stamina, mental as well as physical, that tends to outlast the first fine fury and élan of more ebullient races.

"I know your national motto—'Slowly, slowly'—you always get there in the end," said an old Greek to me the day I first arrived in his country. He was a very brave old man—a printer who had been put to work by the Germans to produce a daily paper for their troops. He did it well, for there was no alternative, but late at night when the Germans had all gone home he did not go to bed. Instead he got out his Greek types and fell to work all over again. While the Germans were fast asleep, the same machine that produced the German army newspaper was printing the *Voice of Freedom*.





*Street in Old Barcelona.*

*Photo by G. Parker, A.R.P.S., (Metals Division)*